AHMAD OMAR AHSAN

+880 1797 997955| ahmadomar@iut-dhaka.edu |
linkedin.com/in/ahmad-omar-ahsan/ | https://ahmad-omar-ahsan.github.io/

EDUCATION

Bachelor of Science | **Computer Science and Engineering**   Jan. 2017 – March 2021
Islamic University of Technology, Gazipur, Bangladesh

WORK EXPERIENCE

AI Engineer   Feb 2021 – June 2022
Intelligent Machines   Dhaka, Bangladesh
- Trained and deployed a speech recognition model using TensorFlow for key-word classification. This model was developed to classify keywords spoken in different Bengali dialects in project Shobdo.
- Trained and deployed a text detection and text recognition model using PyTorch for text classification and localization. This model was developed to extract information from hand written receipts from local markets as part of project Fordo.
- Created and maintained registry in order to document existing AI projects for auditing using Saidot.

AI Intern   Nov 2019 – Jan 2021
Intelligent Machines   Dhaka, Bangladesh
- Trained and deployed an object detection model to detect point of sales material in the image. The model enabled bKash to check how many point of sales material were deployed in the market.
- Created scripts to optimize data generation, training and testing for deep learning models.

RESEARCH EXPERIENCE

Research fellow   Jun 2022 - Dec 2022
Hyperbolic Deep Learning for Computer Vision | Fatima Fellowship
- My research project focuses on image classification using hyperbolic graph neural network. In this project the features are being extracted in the non-Euclidean domain which are used to perform image classification. The research project is being conducted under the supervision of Wei Peng.

Research contributor   Nov 2020 - June 2021
Sound Generation Group | Sound of AI
- In this project I worked in the sound generation group. In this group I trained on WaveNet and focused on creating custom models by adding modules on top of WaveNet. Our objective was to create a guitar note synthesizer using an encoder and a decoder.

Undergraduate Researcher   Jan 2020 - March 2021
Bioinformatics and Data Mining Research Group | Department of CSE, IUT
- In this project I created and trained a deep learning model to classify cancer based on miRNA quantification data. This project was supervised by Tareque Mohmud Chowdhury, Assistant Professor, department of CSE.

PUBLICATIONS

Learning Audio Representations with MLPs   Under review
MM Morshed, **AO Ahsan**, H Mahmud, M Hasan. [Paper] [Code]

Attention-Free Keyword Spotting   Accepted in PML4DC 2022 ICLR workshop.
MM Morshed, **AO Ahsan**. [Paper][Code]

ACHIEVEMENTS

Hear Challenge 2021, NeurIPS 2021   Oct 2021
HEAR evaluates audio representations using a benchmark suite across a variety of audio domains.
- 1st place: Speech Commands Full, Speech Commands 5H, Mridingham Tonic
- 3rd place: Mridingham Stroke, Beehive States

PROJECTS

Keyword Transformer	May 2021

An unofficial TensorFlow implementation of keyword transformer

Vision Transformer	October 2021

An unofficial TensorFlow implementation of vision transformer

ResNet	October 2021

PyTorch implementation of ResNet-50,101,150

EfficientNet	October 2021

PyTorch implementation of EfficientNet model from B0-B6

STANDARDIZED EXAMINATION SCORES

- **GRE: 313** 161 Quant, 152 Verbal, 4.5 AWA

- **TOEFL: 110** Reading 26, Writing 28, Listening 29, Speaking 27

REFERENCES

Wei Peng
Postdoctoral Researcher
Computational Neuroimage Science Laboratory
Stanford University
Email: wepeng@stanford.edu

Amit Yadav
Machine Learning Engineer
Research coordinator at sound of AI
London, United Kingdom
Email: amit.yadav.iitr@gmail.com

Tareque Mohmud Chowdhury
Assistant Professor
Dept of Computer Science and Engineering
Islamic University of Technology
Email: tareque@iut-dhaka.edu

Md Rashedul Islam
Head of Artificial Intelligence
Intelligent Machines
Dhaka, Bangladesh
Email: rashed@intelligentmachin.es